Int. J. Renew. Energy Environ., Vol. 1, No. 1, pp31-39 (2013)

INVENTORY OF FARMS INVOLVED IN LIVESTOCK PRODUCTION IN EDO AND DELTA STATES AND THEIR POTENTIALS AS SOURCES OF ANIMAL WASTE BIOMASS FOR ENERGY GENERATION AND BIOGAS PRODUCTION

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Abstract
A study on the potentials and gross energy value of animal wastes in Edo and Delta States for biogas and energy production was carried out. The study sought to take inventory of farms that are involved in livestock production in Edo and Delta States, document how much animal wastes are generated, where the wastes are available, how the wastes can be effectively managed and harnessed for use in the production of biogas, and the gross energy values of poultry litter and pig faeces. The study objectives were achieved through survey of the livestock farms and collection of waste samples and determination of the gross energy values of the animal excreta and faecal samples. A total of seventy three (73) farms in Edo State and one hundred and seven (107) farms in Delta State were visited during the survey.
The results of the research revealed that animals kept in the two states were mainly poultry and pigs and over 95% (63 and 103 farms respectively in Edo and Delta states) of the farms surveyed practised intensive animal production. Twenty eight (28) of the forty seven farms surveyed in Edo state and fifty six (56) of the one hundred and three farms surveyed in Delta state had poultry population of over one thousand (1000) birds. Over 12 farms in Edo State and 15 farms in Delta State stocked over 5000 birds. Twenty (20) pig farms in Edo state and only one (1) farm in Delta state had pig population of over one hundred (100). One farm in Edo State stocked over 5000 pigs. Over 85% of the wastes disposed of in both states were by self disposal. Loading in bags and wheel barrows were the major ways of carting away animal wastes from the animal houses and most of the animal wastes were deposited on the farm, on road sides and water bodies. The gross energy was approximately 6 kcal/kg for poultry litter and pig faeces.
The results show that both Edo and Delta States have the animal population to sustain biogas plant on the farm and enough easily collectable animal waste needed for anaerobic digestion for biogas production and energy production. The indiscriminate way the animal wastes are deposited has serious implications on the environment and the health of both farm animals and human beings.